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(72) Inventors:
• Clarke, Alan
Gosport, Hants, PO12 2JH (GB)
• Clarke, Peter George
Locks Heath, Hants, SO31 6EL (GB)
• Ireland, Robert Sidney
Salisbury, Wiltshire, SP4 9DT (GB)

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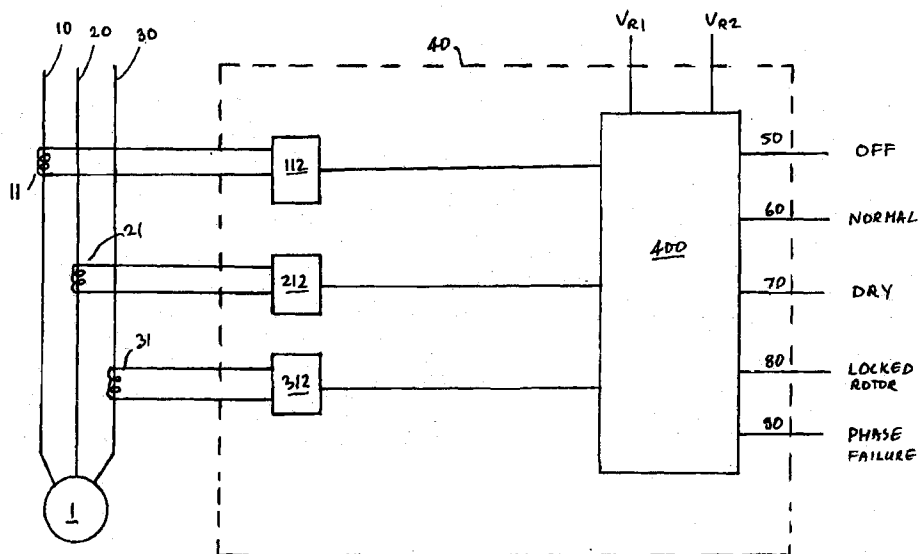
(71) Applicant: Gec-Marconi Aerospace Ltd.
Stanmore, Middlesex, HA7 4LY (GB)

(74) Representative: Camp, Ronald
GEC Patent Department,
Waterhouse Lane
Chelmsford, Essex CM1 2QX (GB)

(54) Electric motor monitoring arrangement

(57) The status of a three phase electric motor (1) is determined by sensing the magnitude of the currents flowing in the motor's supply conductors (10, 20, 30) and comparing the currents with a number of ranges of current, each range representing a different motor operating state. Taking the respective differences between the currents in pairs of the supply conductors (10, 20, 30) allows phase failure to be detected. The operating sta-

tus of the motor is determined by comparing the phase currents and phase current differences with a set of reference values each representing a different operating state. The motor may drive a pump, the state of the motor indicating the state of the pump. A comparison circuit (400) produces an output signal on an output line (50, 60, 70, 80, 90) corresponding to the pump operating state.





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EUROPEAN SEARCH REPORT

Application Number
EP 97 30 9571

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	DE 32 28 954 A (LOHER GMBH) * claim 1 *	1-3	G01R31/34 H02H7/08
Y	--- "Motor load detector" IBM TECHNICAL DISCLOSURE BULLETIN, vol. 28, no. 9, February 1986, ARMONK, NEW-YORK, USA, pages 3870-3871, XP002062410 * the whole document *	1-3	
A	--- DATABASE WPI Section EI, Week 8805 Derwent Publications Ltd., London, GB; Class X13, AN 88-035606 XP002062411 & SU 1 320 859 A (LATV IND PROGRESS) , 30 June 1987 * abstract *	1	
A	--- BE 893 337 A (SERRIEN) * page 2 *	1-4	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
A	& DATABASE WPI Section EI, Week 8241 Derwent Publications Ltd., London, GB; Class T05, AN 82-N2854E & BE 893 337 A (SERRIEN) , 16 September 1982 * abstract *	1-4	G01R H02H
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 17 April 1998	Examiner Lut, K
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

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